United States Department of Agriculture | Forest Service | Northeastern Area State & Private Forestry | 180 Canfield Street Morgantown, WV 26505-3101

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Subject: New Exotic Woodwasp

To: Mary Reddan, Forest Supervisor
Wayne National Forest

A new exotic woodwasp, *Sirex noctilio* Fabricius (Hymenoptera: Siricidae), was caught in the town of Fulton, NY, in 2004 in a Lindgren funnel trap as part of an annual survey for exotic bark beetles. A confirmatory ground survey during the spring of 2005 (emphasizing areas around Fulton) revealed at least six trees infested by thousands of larvae in the Port of Oswego. An aggressive delimiting survey followed. The survey detected *Sirex noctilio* up to 45 miles from the Port of Oswego. Because the 2005 New York *S. noctilio* delimitation survey suggested that this insect may have become established over a large geographic area, a delimitation survey in New York will continue during 2006 (see attachment). APHIS and New York State agencies will take the lead in the New York trapping program, with support from the USDA Forest Service. To further support the response to the New York *S. noctilio* introduction, the USDA Forest Service will cooperate with State agencies to support an Area-wide detection survey focused on forested areas outside the New York infestation.

We will begin monitoring pine stands within the national forest for this exotic woodwasp this summer and early fall. Our forest contacts have been notified about these plans. Remote sensing data and local knowledge will be used to select optimal trapping locations. Traps will be placed in or near forested areas that are considered at high risk of *S. noctilio* infestation (e.g., overstocked, stressed hard pines). According to University of Massachusetts Extension, *Sirex noctilio* attacks primarily pines, but on occasion it will infest other conifers, such as *Abies* (fir) and *Picea* (spruce). In its native range (Europe, Asia, and Northern Africa), pines attacked by the sirex woodwasp include Scotch (*Pinus sylvestris*), Austrian (*P. nigra*), and maritime (*P. pinaster*) pines. In its introduced range (Australia, New Zealand, South America, and South Africa), pine species attacked include Monterey (*P. radiata*), loblolly (*P .taeda*), slash (*P. elliottii*), shortleaf (*P. echinata*), ponderosa (*P. ponderosa*), lodgepole (*P. contorta*), and jack (*P. banksiana*) pines. Studies by the APHIS Otis Laboratory have confirmed that *Sirex noctilio* will attack red, white, and Scotch pines here in the United States.

From this list of preferred and potential species, both here in the U.S. and in other countries, you can see the need for concern, especially in plantations of red, white, and Scotch pine. *Sirex noctilio* can attack spruce and fir but has a less than 1 percent emergence.

The primary trap to be used will be the multiple-funnel Lindgren trap. Although this is probably not the optimal trap design for *S. noctilio*, most States have many of these traps available and they are easily deployed. If research this winter identifies a better trap, we will be prepared to use the optimal trap in some capacity. The bait will be alpha- and beta-pinene. If new lure components are identified this winter, optimal baits will be exchanged for our alpha/beta lures.

Sirex woodwasp can attack living pines, while native woodwasps attack only dead and dying trees. At low populations, sirex woodwasps select suppressed, stressed, and injured trees for egg laying. The foliage of infested trees initially wilts and then changes color from dark green to light green, to yellow, and finally to red, during the 3 to 6 months following attack. Infested trees may have resin beads or dribbles at the egg laying sites, which are more common at the mid-bole level. Larval galleries are tightly packed with very fine sawdust. As adults emerge, they chew round exit holes that vary from 1/8 to 3/8 inch in diameter.

The sirex woodwasp is expected to complete one generation per year throughout most of the United States. Adult emergence is likely to occur from July through September, with peak emergence during August. Females are attracted to stressed trees after an initial flight. They drill their ovipositors into the outer sapwood to inject a symbiotic fungus (*Amylostereum areolatum*), toxic mucus, and eggs. The fungus and mucus act together to kill the tree and create a suitable environment for larval development. Females lay from 25 to 450 eggs, depending upon the size of the female. Unfertilized eggs develop into males, while fertilized eggs produce females. All larval instars feed on the fungus as they tunnel through the wood. The number of instars varies from 6 to 12, and the larval stage generally takes 10 to 11 months. Mature larvae pupate close to the bark surface. Adults emerge about 3 weeks later.

Currently there are no control methods being implemented in the U.S. However, the sirex woodwasp has been successfully managed using biological control agents in other countries. The key agent is a parasitic nematode, *Deladenus siricidicola*, which infects sirex woodwasp larvae, and ultimately sterilizes the adult females. This biological control agent has not yet been approved for use in the U.S. In addition to the nematode, hymenopteran parasitoids have been introduced into sirex woodwasp populations in the Southern Hemisphere, and most of them are native to North America (e.g., *Megarhyssa nortoni, Rhyssa persuasoria, Rhyssa hoferi, Schlettererius cinctipes,* and *Ibalia leucospoides*).

We have enclosed a copy of our Sirex pest alert. We ask that you give this document wide distribution and encourage your staff to become familiar with this insect and its associated damage. We would like you to inform all recreation staff, including seasonal employees that work in campgrounds. Additional copies of the pest alert are available by contacting Richard Turcotte at 304-285-1544.

Sincerely,

JOHN W. HAZEL
Field Representative
Morgantown Field Office

Enclosures
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